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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/120,608 07/22/98 PAGE

L IJ-0005

IM22/1121  
E I DU PONTE DE NEMOURS AND COMPANY  
LEGAL PATENTS  
WILMINGTON DE 19898

EXAMINER

SHOSHO, C

ART UNIT

PAPER NUMBER

1714

DATE MAILED:

16  
11/21/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/120,608**

Applicant(s)

Page et al.

Examiner

**Callie Shosho**

Group Art Unit

**1714**



☒ Responsive to communication(s) filed on Oct 10, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 6-12 is/are pending in the application

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 6-12 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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**DETAILED ACTION**

**Claim Rejections - 35 USC § 103**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (EP 0851014) in view of Ma et al. '698 (U.S. 5,085,698).

The rejection is adequately set forth in paragraph 10 in the action mailed 10/18/99, Paper No. 5, and is incorporated here by reference.

**Response to arguments regarding 103 rejections**

3. Applicants' arguments and declaration filed 10/10/00 have been fully considered but they are not persuasive for the following reasons.

In paragraph 3 of the declaration filed 10/10/00, applicants admit that the hydrosol binder disclosed in Ma '014 is made from the same monomers as the presently claimed binder and further admit that the hydrosol binders can have the same composition and structure as the presently claimed binder. In paragraph 4 of the declaration, however, applicants argue that while in theory the graft copolymer binders of the present invention may be identical to the hydrosol polymers of Ma '014 for any given ink vehicle, the two polymers would be of completely

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different monomer composition. The argument that the two polymers would be of completely different monomer composition is not understood given (i) in paragraph 3 of the declaration applicants admit that Ma '014's hydrosol binder is made from the same monomers as the presently claimed binder and (ii) as set forth in paragraph 10 of the office action mailed 10/18/99, Paper No.5, both the monomers used to obtain the hydrophobic backbone of the graft copolymer and the monomers used to make the hydrophilic side chains in Ma '014 are identical to the monomers presently claimed.

In paragraph 7 of the declaration, applicants argue that the ink vehicle of Ma '014 is either water or a mixture of water and water-soluble organic solvents resulting in a single phase liquid mixture and that it would be impossible for the hydrophobic monomers contained in the hydrosol of Ma '014 to dissolve in the organic solvent portion of the vehicle because there is no such portion of the vehicle. However, the presently claimed ink vehicle is also a mixture of water and water-soluble organic solvent. Given that Ma '014 disclose the same ink vehicle as presently claimed, i.e. mixture of water and water-soluble organic solvent, and further given that the hydrosol binder of Ma '014 and presently claimed graft copolymer binder are made from the same monomers and can have the same composition and structure, by applicants own admission, one of ordinary skill in the art would expect that the hydrosol graft of Ma '014 to have the same solubility in the ink vehicle as presently claimed.

Paragraph 9 of the declaration describes an experiment conducted wherein the hydrosol of polymer of Ma '014 and a polymer of the present invention are utilized in the same vehicle, i.e.

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dipropyleneglycol monomethylether, N-methyl pyrrolidone, isopropyl alcohol, and water. It is disclosed that Ma '014's hydrosol polymer was cloudy in appearance indicating that the polymer had not dissolved in the vehicle, while the polymer of the present invention were clear in appearance indicating that the polymer had dissolved in the vehicle.

However, given that by applicants own admission the hydrosol of Ma '014 has the same composition and structure and is obtained from the same monomers as the presently claimed graft copolymer, and further given that ink vehicles used in the experiments are identical, it is not clear why Ma '014's hydrosol polymer did not dissolve and the polymer of the present invention did dissolve. If the polymer and the vehicle are identical, why would one polymer dissolve and the other not dissolve?

On page 2 of applicants' amendment filed 10/10/00, applicants argue, and examiner agrees, that identical polymers would not have identical solubility profiles for different vehicles. However, it is the examiner's position that the ink vehicle of Ma '014 and the presently claimed ink vehicle are the same, i.e. mixture of water and water-soluble organic solvent, and thus, the hydrosol of Ma '014 would have the same solubility in the ink vehicle as the presently claimed polymer.

On page 2, second full paragraph of the amendment, applicants admit that the polymers of Ma '014 could have identical structure and composition as the presently claimed polymers, but then argue that the claims require a polymer of specified structure and solubility that polymers of Ma '014 do not have. It is not understood how on the one hand, the hydrosol polymers of Ma

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'014 can have identical structure and composition as the presently claimed polymers, but on the other hand, not have the specified structure and composition as presently claimed. Given that the hydrosol binders of Ma '014 and the polymers of the present invention are structurally identical, it is not clear why the polymers would have different solubilities.

Finally, applicants argue that Ma '014 disclose that the hydrosol binders are "dispersed as a separate phase in aqueous carrier medium" and thus, do not possess solubility as presently claimed. It is noted, however, that there is no disclosure in the present claims of the degree of solubility of the graft copolymer binder. Therefore, if the presently claimed graft copolymer is not entirely soluble in the ink vehicle, the graft copolymer would possess both solubility and dispersability in the ink vehicle, and to this extent, the hydrosol binders of Ma '014 clearly encompass the solubility requirement of the present claims.

Thus, the examiner's position remains that since the hydrosol binders of Ma '014 are structurally identical to the presently claimed binders and since the ink vehicle disclosed by Ma '014 is also identical to the ink vehicle presently claimed, the hydrosol binders of Ma '014 would clearly have the same solubility in the ink vehicle as presently claimed.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Monday-Thursday from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CS

Callie Shosho  
11/20/00

Vasu Jagannathan  
Vasu Jagannathan  
Supervisor, Patent Examiner  
Technology Center, USPTO